Alameda COUNTY

# FLOOD CONTROL & WATER CONSERVATION DISTRICT

*FISCAL YEARS 2002 AND 2003*

RELEASE DATE: MARCH 2004

*To Serve and Preserve*
Our Community

# MESSAGE FROM THE DIRECTOR

*Donald J. LaBelle, Director*

The Alameda County Flood Control and Water Conservation District is proud to present this report detailing the District's many activities for Fiscal Years 2002 and 2003.

We want you, the community we serve, to know about all the work we do to protect Alameda County from flooding and the efforts taken to protect and enhance our natural resources. Preparing and distributing a report like this allows us to reach people in the most meaningful way—by sharing the stories and images of design, construction, and maintenance projects completed in each flood control zone. In addition, a summary of District responsibilities and finances is provided for public review.

## DISTRICT GOALS

When the Flood Control District was established in 1949, its first concern was to reduce regional flooding. Early in the District's history, engineers and planners realized that flood control infrastructure could, in some instances, provide recreation opportunities. Today, Alameda Creek Trail, Lake Elizabeth, and other trails, parks, and lakes are a testament to the District's forethought.

The District has continued to maintain and repair infrastructure built as long as 50 years ago while responding to flood control needs created by new development throughout the area. Over the last 20 years, the District has turned even greater attention to environmental concerns. This includes repairing local creeks damaged by stormwater flows, returning channelized waterways to more natural settings, adding parks and learning centers in watershed areas, working to prevent stormwater pollution, and educating the public about individual and collective roles we can all take to create a healthier environment.

## WHO PAYS?

Even though flooding has been resolved in many parts of the county, the District still has a list of facilities that need to be built or upgraded and natural habitats that need to be restored. The District must lead the way for flood safety in new neighborhoods and new developments.

We must also be prepared to take the lead in flood emergencies, to make unforeseen repairs, and to meet more stringent environmental mandates. This approach requires the District to significantly increase reserve funds to cover not only emergencies, but flood control and environmental restoration projects on the horizon.

Our means of collecting revenue is limited by law. Where we can, we supplement our income with grants or take advantage of special programs. Where there are funding gaps, we hope we can count on your input and creativity to help us find ways the District's work can continue without compromise.

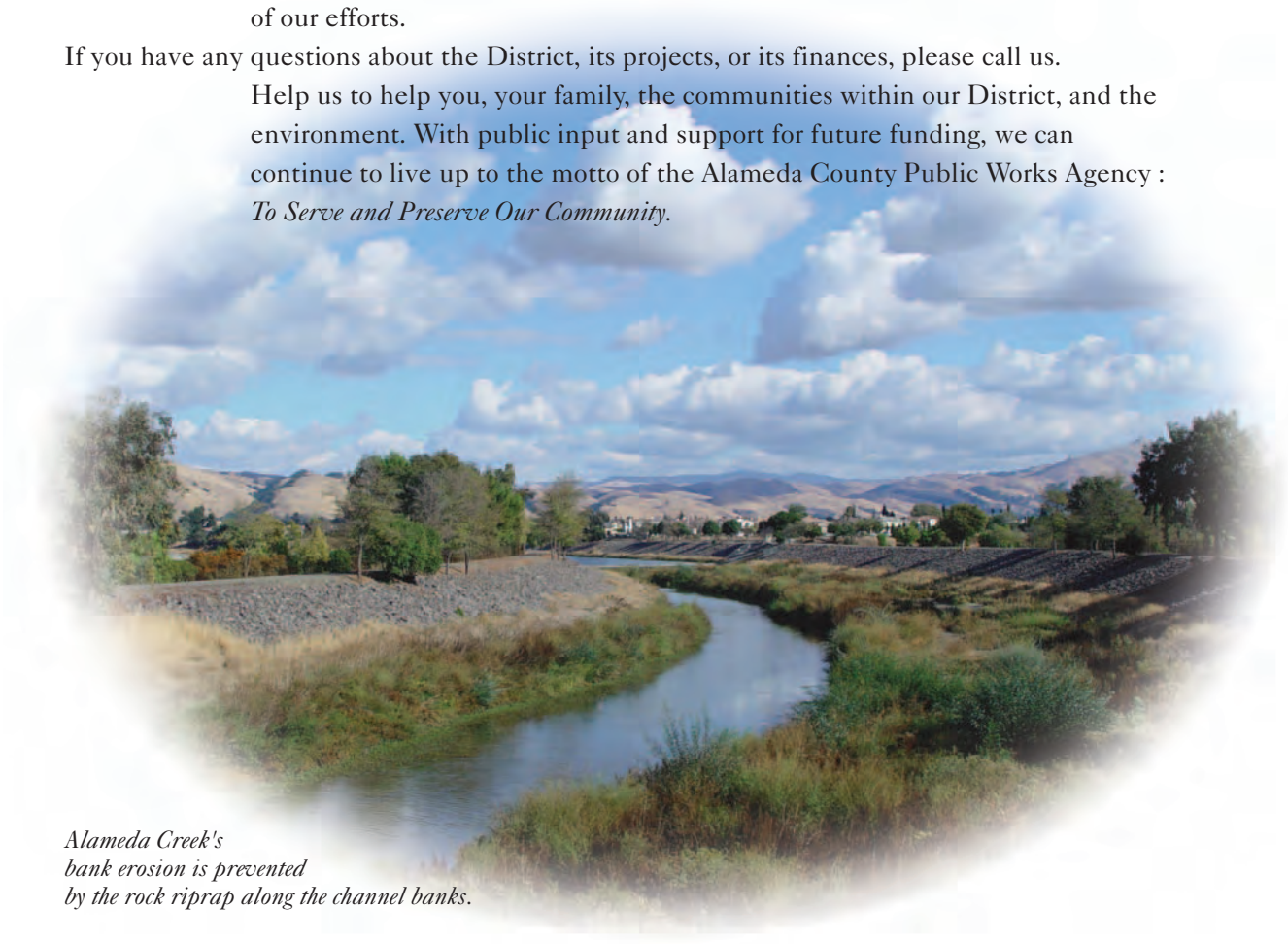
## THE PUBLIC'S PART

Please read about the District's efforts in your own flood control zone or throughout our system. Then, consider the value of our work to your everyday life.

Do you have to buy flood insurance? Many of our constituents no longer have to, thanks to District construction or remapping projects. Our engineers are refining our hydrologic modeling and mapping and working on infrastructure improvements so that other properties can be removed from Federal Emergency Management Agency (FEMA) designated flood zones.

Have you enjoyed a recreational facility like the Cull Canyon or Don Castro Reservoirs? Have you walked along a creekside trail with your children? Have you taken your grandchildren to see the cattails at Fremont's Tule Pond Education Center? If you have enjoyed these opportunities, you are reaping the benefits of our efforts.

If you have any questions about the District, its projects, or its finances, please call us. Help us to help you, your family, the communities within our District, and the environment. With public input and support for future funding, we can continue to live up to the motto of the Alameda County Public Works Agency : *To Serve and Preserve Our Community.*



*Alameda Creek's bank erosion is prevented by the rock riprap along the channel banks.*

# GUIDE TO THE ANNUAL REPORT

*CONSIDER THIS REPORT YOUR REFERENCE DOCUMENT FOR FLOOD CONTROL IN ALAMEDA COUNTY.*

This report presents an overview of the Alameda County Flood Control and Water Conservation District's activities and finances during Fiscal Years 2002 and 2003 (July 1, 2001 through June 30, 2003).

Start by referring to the map in the center of the report to find the zone in which you live or work. Using the table of contents on the next page, flip to your zone's report to read about construction and maintenance activities conducted there. Also provided is a summary of revenue and expenses for your zone. Refer to the glossary on page 5 for terms that may not be familiar. Consider reviewing recent activities in other nearby zones.

More detailed information about District operations is also at hand in this report. An explanation of District departments and finances is found on pages 8 to 10. The District's Clean Water Division, charged with working to enhance and protect the quality of the local creeks and watersheds, is highlighted in an expanded article on pages 36 and 37.

We hope that in reading about the District's work, you come to understand that the Alameda County Flood Control and Water Conservation District takes many steps to reduce the potential for flooding, maintain its investment in the flood control system, preserve the environment, and prepare for the future.

*Castro Valley Hills*

# TABLE OF CONTENTS

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## GLOSSARY

CULVERT—A drainage pipeline located underground

FISCAL YEARS (FY) 2002 & 2003—The period of time between July 1, 2001 to June 30, 2002 (FY 2002) and July 1, 2002 to June 30, 2003 (FY 2003), respectively

FLOOD PLAIN—The area near a creek that is naturally subject to flooding

100-YEAR FLOOD—A significant flood that has a 1-in-100 chance of occurring in any given year (also called a one- percent flood)

INFRASTRUCTURE—System of built structures and facilities that serve a central purpose, such as flood control

PUMP STATION—A facility that lifts stormwater, after it is collected in channels, creeks, and pipes, to an elevation high enough to allow the water to flow by gravity into San Francisco Bay

WATERSHED—The region drained by a creek or river, or manmade drainage system, such as a culvert or channel.

WETLAND—Land characterized by particular soils and vegetation that is often or always under water and may serve as a natural habitat

ZONE—Administrative area designated by the Alameda County Flood Control District for flood control system design and maintenance.

# HISTORY OF THE DISTRICT

Flooding was a common experience in some Alameda County communities from their earliest days until the 1950s and 1960s. While some cities had constructed drainage facilities, a countywide system was needed to channel stormwater away from neighboring communities and into the San Francisco Bay.

The State Legislature created the Alameda County Flood Control and Water Conservation District in 1949 at the request of county residents. To create a county-wide flood control plan, cities and unincorporated areas were grouped into zones corresponding to local watersheds and community boundaries. Zones were created within the Flood Control District so interested communities could benefit from the District's proposed plans.

## *BIG BUILD UP*

The first District engineers designed and constructed hundreds of miles of pipeline, concrete-lined waterways, and creek upgrades to transport stormwater to the Bay. Many pump stations have been constructed to assist in this effort.

Most of the infrastructure seen today was constructed during an intense building period that stretched from the 1950s through the 1970s. Recent estimates place the value of the flood control infrastructure at over $300 million. System components have been paid for with a combination of benefit assessment fees, developer fees, special state and federal project funding, and a portion of property taxes.

*Lake Merritt, 1913*

### A New Era

By the early 1980s, the Flood Control District shifted, in part, into a maintenance mode. At the same time, concern for the environment was growing. The District began to embrace more environmentally sensitive projects, no longer lining the channels with concrete or enclosing the creeks in culverts. The District played a major role in forming the Alameda Countywide Clean Water Program—a consortium of 14 cities, unincorporated Alameda County, the District, and Zone 7.

## Enduring Legacies

### Shinji Momono

Shinji Momono, or "Mo" as he was known to District employees, started at the Flood Control District in 1952 as an Assistant Civil Engineer. He rose to the positions of Principal Civil Engineer, Assistant Deputy Director of Public Works, and Assistant Engineer-Manager for the District. He retired in 1985 and passed away in 1988.

*Mo Momono*

Mo was an outstanding engineer. His knowledge of engineering principles and his many unique flood control design ideas, some ahead of their time, made him a District leader. His personnel file was filled with letters of commendation for his work. Mo's co-workers and friends described him as a great guy and one heck of a Ping-Pong player.

While Mo is sincerely missed, the projects he helped to design and build continue to keep Alameda County virtually free of flooding.

### Paul Lanferman

Paul Lanferman joined the Flood Control District as an experienced civil engineer in 1958. His first role was inspecting pipelines, channels, dams, and reservoirs during the District's most concentrated period of construction. He later became Chief of the Construction and Maintenance Department, then Chief Engineer and General Manager, a position he held for 17 years until he retired from the District in 1983.

*Paul Lanferman*

He is most proud of District-built facilities linking flood control with public recreation, like Fremont's Lake Elizabeth and parks alongside Oakland flood control channels. Such projects could not have become reality, he says, without the excellent cooperation fostered between the District and city street departments, sewer districts, council members, and other community groups.

Lanferman also recalls strong public support for the District. Residents almost always voted "yes" on assessments to fund flood control. "If you can show people the need, and show them how you can meet the need in the most efficient and cost effective way, they will agree," he says.

# DISTRICT RESPONSIBILITIES & FINANCIAL OVERVIEW

Working together with the community in an environmentally sound way, the District works to build new flood control structures, maintain and repair existing facilities, and strives to minimize the adverse impacts of construction and new development. A variety of skills are required, and four departments—Engineering and Construction, Maintenance and Operations, Land Development, and Administration—take on this challenging work.

## ENGINEERING AND CONSTRUCTION

The District's Engineering and Construction Department plans, designs, constructs and inspects all major flood control projects. The work includes building new structures, upgrading or repairing older facilities, and restoring or enhancing natural creeks and flood control lakes.

Department staff also reviews the preliminary Federal Emergency Management Agency (FEMA) Flood Insurance Studies which are the basis for the production of their Flood Insurance Rate Maps (FIRM). District input on these maps has saved thousands of property owners the cost of unnecessary flood insurance.

Capital improvements and other work done by the Engineering and Construction Department are funded by grants, benefit assessments, and a small portion of property taxes.

## MAINTENANCE AND OPERATIONS

The Maintenance and Operations Department keeps stormwater facilities operational so rainwater moves quickly from community streets to the San Francisco Bay. The staff maintains over 500 miles of conduit, channel, and natural creeks;

*Quarry Lakes with Alameda Creek in the background.*

*Pelicans on Lake Elizabeth*

clearing excess vegetation, sediment, and debris; and repairing damaged facilities. Crews inspect and repair over 4 million linear feet of fencing and conduct regular repairs and preventive maintenance for the District's 22 pump stations. The Maintenance and Operations Department teams with Engineering and Construction to plan future upgrades of flood control facilities. Public safety takes a high priority at the Flood Control District. District staff provide hazardous spill response, inspection of damaged trees, sand bag supplies, and fire hazard reduction. The District also serves as an Emergency Response Unit during natural disasters like earthquakes and localized flooding.

## Development Services

The Development Services Department's top goal is to maintain the integrity of the existing flood control system in the face of new developments. Development Services staff ensure all private and public developments in unincorporated areas of the county comply with accepted engineering standards and environmental requirements outlined in District ordinances.

This department is a valuable resource for developers, residents, cities, and unincorporated areas involved in development projects. The Development Services Department's revenue generally comes from permit fees paid by developers and builders for the review and inspection of their projects.

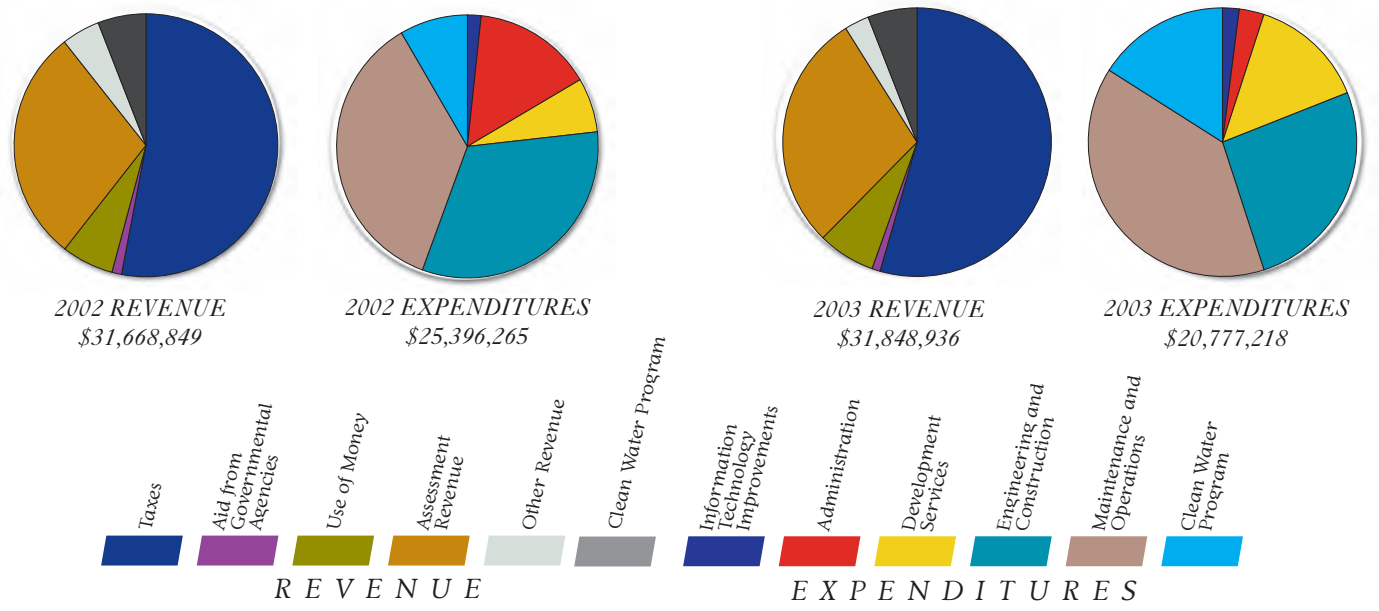
The District's Clean Water Division (profiled on page 36) is part of the Development Services Department. The Unincorporated Area Clean Water Program and the District Clean Water Program are funded through fees and/or benefit assessments. The Alameda Countywide Clean Water Program is funded by member agencies.

## Administration

The Administration Department handles human resources, accounting, and administrative services for the District. Typically, less than 15 percent of the District's expenditures go toward these costs.

A small percentage of the District's expenditures is used to upgrade and support the District's computer systems and to implement new programs like a remote permitting system and a system to archive historic data.

# DISTRICTWIDE REVENUE & EXPENDITURES FY2002 & FY2003




## WHAT IS THE SOURCE OF THE DISTRICT'S REVENUE?

The Flood Control District receives revenue from a number of sources described below. It is important to note that tax and assessment monies received from properties within each flood control zone can only be spent on projects or maintenance within that zone.

ASSESSMENT REVENUE: Assessments are based on predictions of the quantity of stormwater runoff from each parcel of property. To make these estimates, properties are grouped by land use: (A) commercial and industrial, (B) institutions and apartments, (C) single family and small multiple residential, (D) vacant land used for farming, parks, etc., and (E) vacant land that is undisturbed or used for grazing. The assessment rate-per-acre depends on the land use and the zone in which the property is located. Assessments have not increased since the early 1990s.

TAXES: The District receives a very small portion of the one percent countywide property tax. As a result of Assembly Bill 1661, a large portion of the District's property tax allocation is reallocated to the state's Educational Revenue Augmentation Fund (ERAF) to be used by public schools. Of course, state budget decisions can further impact the amount of funding that reaches the District.

AID FROM GOVERNMENTAL AGENCIES: Most of this money was comprised of funds returned to the District for overpayment of ERAF.

USE OF MONEY OR PROPERTY: This includes the interest on cash reserve balances held in interest-bearing accounts, rental revenue collected for District-owned property, and monies encumbered for construction and other contracts, but not yet spent. In addition, it includes amounts set aside for prudent reserves that are used for emergencies such as major storm damage repairs.

OTHER REVENUE: This includes plan review and permit fees paid by developers and builders.

# ZONE 2


Zone 2 has over 80 miles of natural creek, the most of any zone in western Alameda County. Castro Valley, Cull, Crow, Bolinas, Norris, Eden, Hollis, and Palomares Creeks flow from the hills above Castro Valley and Hayward into the communities below. There, water is conveyed in storm drains, channels, and pipelines to San Lorenzo Creek, where it eventually flows into the San Francisco Bay. Other watersheds in the zone include Sulphur Creek and the Estudillo and Bockman Canals, which also flow to the San Francisco Bay.

Cull and Don Castro Reservoirs are also located in Zone 2. With so many creeks and other waterways, Maintenance and Operations crews work hard to keep channels clear for stormwater flow. Maintenance activities also include fence repair and debris and vegetation removal.

## *NATURAL RESTORATION*

A project to stabilize a portion of Palomares Creek behind Palomares Elementary School, 6395 Palo Verde Road, was completed in fall 2002. The creek bank stabilization was done to prevent further erosion and damage. The repair work also helped reduce the quantity of sediment flowing to Don Castro Reservoir. Bioengineering techniques were used to restore the area to a natural setting while strengthening the embankment. Bioengineering is an approach which uses plant materials, rather than concrete and steel, to reinforce and stabilize soil (see "Bioengineering," page 15).

Root wads, that is, dead trees with root balls still attached, were installed in the creek bank to both stabilize the soil and provide improved fish habitat within the area of the exposed roots. To provide further reinforcement and stablize the bank, rip-rap sections, an arrangement of rocks, were placed and live willow stakes were planted between the sections.

The entire project site was vegetated with native plants. Construction costs came in at just under $170,000. Restoration efforts were a partnership of the District, the United States Department of Agriculture (USDA) Natural Resources

*Palomares Creek*

# ZONE 2

Conservation Service, Alameda County Resource Conservation District, and Castro Valley Unified School District. In addition, the State Water Resources Control Board provided grant funds for the project.

Palomares Creek is a showcase of bioengineering techniques for the public and other flood control professionals. At a ceremony marking the project's completion in June 2003, students at Palomares Elementary School took visitors on a tour of the site. The project also included the development of a watershed-based curriculum for the school.

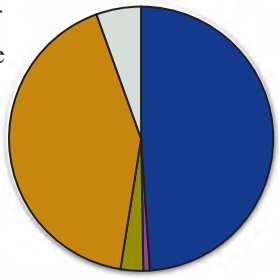
The Palomares Creek restoration site is home to the Palomares Watershed Festival held each May. In 2003, 600 people attended the event featuring 21 environmental education booths and craft booths for children.

## FUTURE IMPROVEMENTS AT ESTUDILLO CANAL

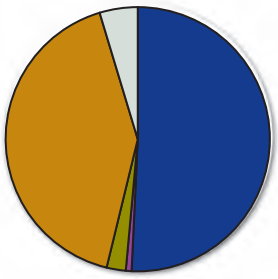
In its most recent study of Estudillo Canal, the Federal Emergency Management Agency (FEMA) concluded that flooding threat due to channel limitations is greater than previously thought. As a result, FEMA republished its Flood Insurance Rate Map for San Leandro showing an expanded Special Flood Hazard Area (SFHA) that added approximately 1,800 properties to the special designation. FEMA encourages those who own property in a SFHA to obtain flood insurance. Flood insurance is required by law for properties financed with a federally insured loan.

The District will be working with the U.S. Army Corps of Engineers (USACE) to develop facility upgrades designed to lessen flooding potential, thereby diminishing or eliminating the SFHA. Using District-provided technical information, the USACE will begin a reconnaissance study taking into consideration past flood events and subsequent damage, the level of property damage a future flood would likely cause, and other factors outlined in USACE guidelines.

If the USACE determines there is federal interest and if the project meets the benefit-to-cost ratio requirement, it will prepare a Project Management Plan then move on to the Feasibility Study Phase. Depending on the availability of federal funding, the USACE will proceed with the Preconstruction Engineering and Design Phase followed by construction. Without federal assistance, the District will have to seek alternative funding sources to construct the proposed improvements.



*2002 REVENUE*
*$3,774,032*



*2003 REVENUE*
*$3,851,730*

## FINAL STEPS AT CROW CREEK

Work to repair erosion damage at a bend in Crow Creek was completed in fall 2001. Citizens living along Crow Canyon Road had alerted the District to the damaged creek bank which was hidden by thick vegetation. Heavy stormwater discharges had probably caused the severe erosion. Two parcels were threatened, and a portion of one home's backyard was in danger of slipping into the creek.

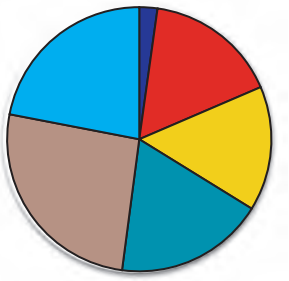
The District averted this threat by utilizing bioengineering techniques (see "Bioengineering," p 15) to stabilize the creek bank and to maintain its natural appearance.

## STATE OF THE WATERSHED REPORT CARD

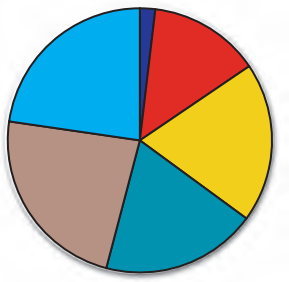
The District wants to see which watersheds will "make the grade" as future fish runs. The Clean Water Division is developing a State of the Watershed Report Card to grade watersheds and identify steps to be taken to establish, or reestablish, fish habitat.

The work has already started in Zone 2. Staff studied Cull and Crow Creeks in the upper watershed and urban channels downstream such as San Lorenzo Creek. Water quality, the configuration of the waterways, and other factors that influence fish viability were evaluated. Some areas like Crow Creek show great promise, while waterways with segments of concrete channels and pipeline have more challenges to overcome before fish return.

The Clean Water Division will work with other District departments and regional agencies to create a 10-year plan for returning fish runs in Zone 2.



*2002 EXPENDITURES*
*$3,468,938*



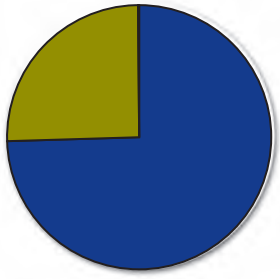
*2003 EXPENDITURES*
*$3,452,079*


EXPENDITURES

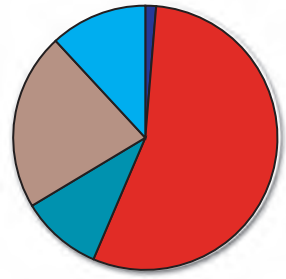
# ZONE 2A

Zone 2A, in southeastern San Leandro, was established in 1965 to address occasional local flooding caused by overflows from the surrounding region. At 329 acres, it is the smallest zone in the Flood Control District. There are no natural creeks in this zone. Instead, stormwater collected in pipelines in Zone 2A flows into pipelines in Zone 2, where it is conveyed to the Bay.

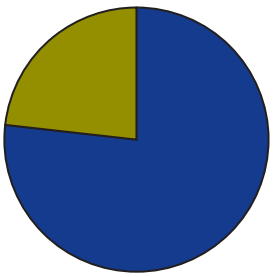
Maintenance is the most important task in this zone. In the rainy season, District crews clear debris from pipelines and drop inlets so that the structures operate efficiently during each storm event.

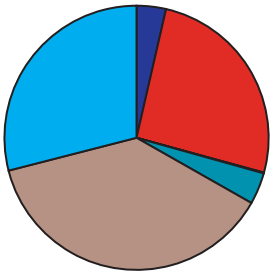
*2002 REVENUE*
*$149,022*



*2002 EXPENDITURES*
*$28,238*



*2003 REVENUE*
*$159,437*



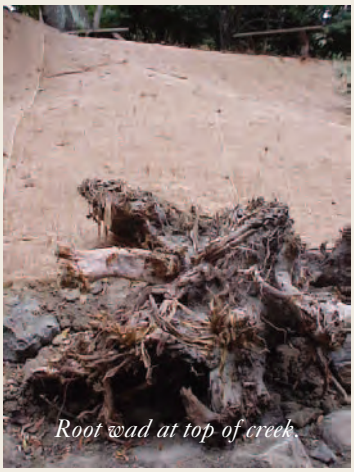
*2003 EXPENDITURES*
*$13,921*


REVENUE


EXPENDITURES

## *Bioengineering— Technology Improving the Environment*

Nothing holds soil together and improves its structures the way a web of plant roots can. Bioengineering makes use of this fact by employing plant and other natural materials, rather than concrete and steel, to reinforce and stabilize soil. Biotechnical stabilization combines the use of plants and inert materials, such as rocks and wood, to stabilize creek banks.



*Root wad at top of creek.*

By selecting native plants and locally available materials such as tree stumps, logs, and rock, construction costs for creek repair projects can be lower than when traditional reinforcing materials are used. In addition, the plants selected are likely to thrive when the work is complete because they are already acclimated to soil conditions in the area.

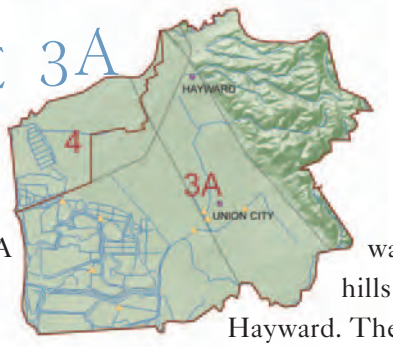
Maintenance costs are usually higher though, requiring trimming and other maintenance, because the living materials grow and regenerate on their own. Of course, the natural materials are much more attractive than steel and concrete since they blend into the creekside environment.

Some specific bioengineering techniques and materials are –

| | |
|---|---|
| *Live Cribwall:* | Logs placed in an interlocking pattern and planted with cuttings |
| *Live Stakes:* | Willow, or other plant cuttings, packed into soil |
| *Rootwads:* | Logs with their rootball still attached, installed into a creek bank |
| *Tree Revetment:* | Trees anchored along a bank for reinforcement |

*Source: USDA Natural Resources Conservation Service*

# ZONE 3A




In the Zone 3A watershed, Ward Creek and Zeile Creek flow from the hills east of California State University at Hayward into Hayward. The stormwater then flows in channels and pipelines into Mt. Eden Creek and Old Alameda Creek en route to the Bay.

Tidal action in this coastal watershed causes rapid silt buildup in the zone's main outlet channel, Old Alameda Creek (see "Names New and Old," below). As water from the San Francisco Bay mixes with fresh water from the watershed, silt falls out and obstructs the free flow of stormwater in the flood control channels.

District maintenance crews remove debris, vegetation, and silt from waterways, keeping them free-flowing. Fence repair and tree trimming near channels help to meet this goal also. Roads providing access to channels in this zone require significant upkeep. In addition, crews inspect and maintain Ward Creek Dam located in eastern Hayward.


*Zone 3A, Line A*

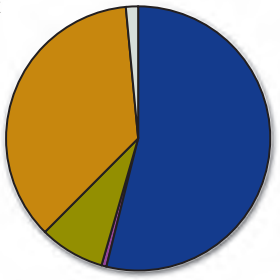
## NAMES NEW AND OLD

Some people wonder what the difference is between Old Alameda Creek, found in Zone 3A, and Alameda Creek in Zone 5.

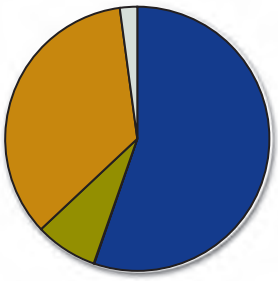
The first waterway to be named Alameda Creek was one of several channels that crossed Zone 3A's coastal plain to reach San Francisco Bay. Other channels on the plain included Patterson Creek and the Coyote Hills Slough.

From 1965 to 1975, a manmade flood control channel was constructed to dramatically increase flood protection for the area. Although the new channel roughly followed the existing Patterson Creek and Coyote Hills Slough alignment, it was termed the Alameda Creek Federal Project or "New Alameda Creek." This channel, now referred to as Alameda Creek, is in the coastal area of Zone 5.

To differentiate between the two, the natural channel in Zone 3A was soon known as "Old Alameda Creek."



*2002 REVENUE*
*$3,911,691*



*2003 REVENUE*
*$4,078,671*


REVENUE

## KEEPING THE PUMPS PRIMED

There are nine pump stations in Zone 3A that pump stormwater at high tide from the streams and channels into the Bay: Eden Landing, Ruus Road, Besco, Westview, Alvarado, Industrial, Ameron, Stratford, and Eden Shores.

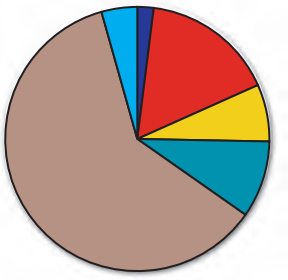
In Fiscal Year 2003, District Maintenance and Operations staff overhauled one of the engines at the Ruus Road Pumping Station and installed new fuel leak monitors for underground fuel storage tanks at the Ameron Pump Station.

## ONGOING DEVELOPMENT

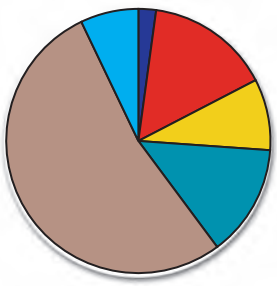
The 500-acre Eden Shores project on the Oliver Trust property in western Hayward is a major new development for the area. The District, City of Hayward, Hayward Area Shoreline Planning Agency, and the project developer have worked diligently through the planning and design process to address flood control and other environmental concerns.

Construction of the developer-funded Eden Shores Pump Station is complete. The new station replaces Pump Station A2 which was in need of extensive repair. The new pump station is large enough to serve the additional flood control demand of the new development. A stormwater retention pond built next to the station collects runoff from the new residential area.

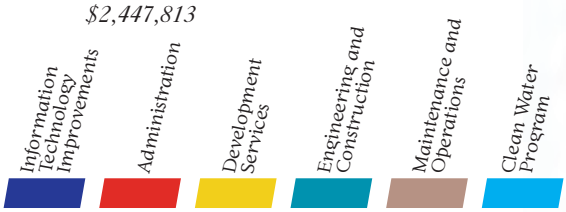
A state-of-the-art Supervisory Control and Data Acquisition (SCADA) system allows District crews to monitor pump station operations remotely with only a laptop computer and a phone connection. SCADA saves time and money by cutting down on visits to field stations and by spotting problems before expensive repairs are required.



*2002 EXPENDITURES*
*$2,645,202*



*2003 EXPENDITURES*
*$2,447,813*




*EXPENDITURES*

*Eden Shores Pump Station*

# ZONE 4

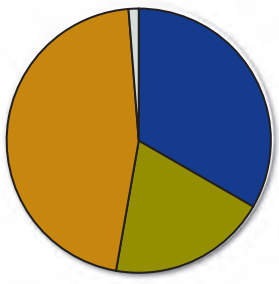

Zone 4, on the shoreline of San Francisco Bay, is an alluvial plain, that is, it is made up of sand, silt, and mud deposited by water flowing to the Bay.

Only 2,960 acres in size, Zone 4 is one of the smallest zones in the District. However, for its size, it has a relatively large amount of earthen channel. For this reason, and because of the Bay's constant tidal action, flood channels in Zone 4 require regular erosion repair.

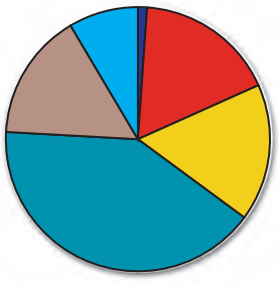
Other maintenance work in the zone includes desilting, fence repair, and vegetation removal, key tasks in keeping flood control channels clear for stormwater flows.

## *Opening Up Lines of Flow*

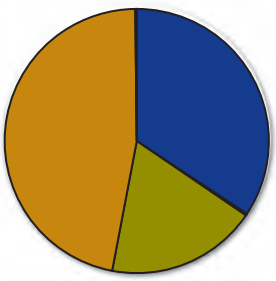
Line A, an earthen channel that runs through the neighborhood of Russell City and to the Bay, is currently a bottleneck for stormwater flow. In Fiscal Year 2002, engineers began reviewing design alternatives to increase Line A's capacity. The final design for an improvement project at the Winton Avenue Crossing will be completed in Spring 2004. Construction, estimated at a cost of $590,000, is expected to begin in Summer 2004.



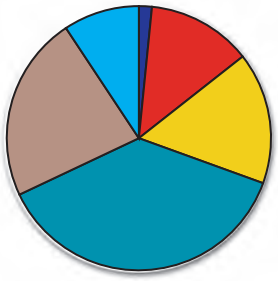
*2002 REVENUE*
*$441,559*



*2002 EXPENDITURES*
*$291,312*



*2003 REVENUE*
*$434,621*



*2003 EXPENDITURES*
*$257,481*


*REVENUE*


*EXPENDITURES*

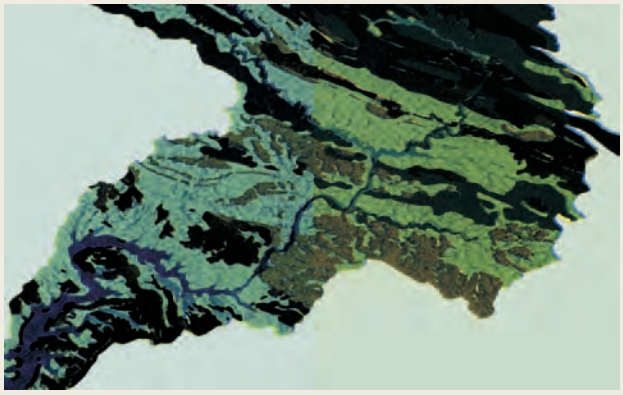
While the primary project goal is improved handling of stormwater flow, District engineers have taken steps to make the project environmentally appealing and enhance the crossing to a more natural state. A new clear span bridge over the channel will replace the existing pipe culverts, which means the bridge structure will not impede the flow in the channel. A grate-style bridge deck will allow sunlight to penetrate to the open channel below. The project also includes a new parking area to serve area trails and a pedestrian ramp with full Americans with Disabilities Act (ADA) access.

*Line A before improvements*

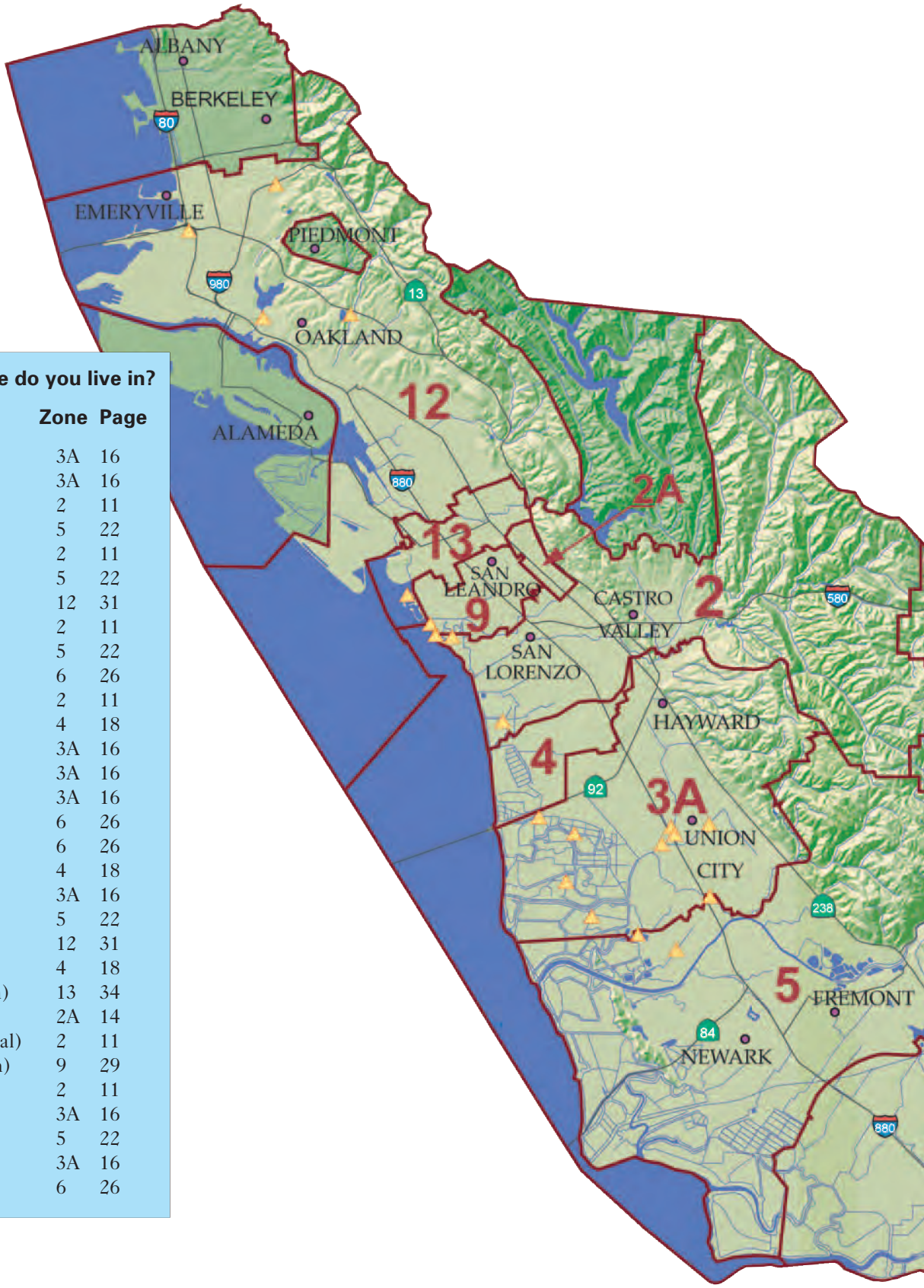
## *GIS – A Better View*

A Geographic Information System (GIS) is a spatial database that stores, manipulates, integrates, and analyzes geographic data. Users can display and update an array of information about a particular location while looking at a single computer image.

The Alameda County Public Works Agency started its GIS initiative in 1994 by creating digital base maps. Additional data have been added over the years. Now, at any location in the flood control system, staff engineers can quickly and easily determine design capacity and view as-built design information. The Flood Control District uses its GIS for watershed studies and to identify future capital improvement projects. The District's GIS lets engineers organize and manage flood-related information in a much more effective way, allowing for better planning, design, and maintenance activities for the entire District.



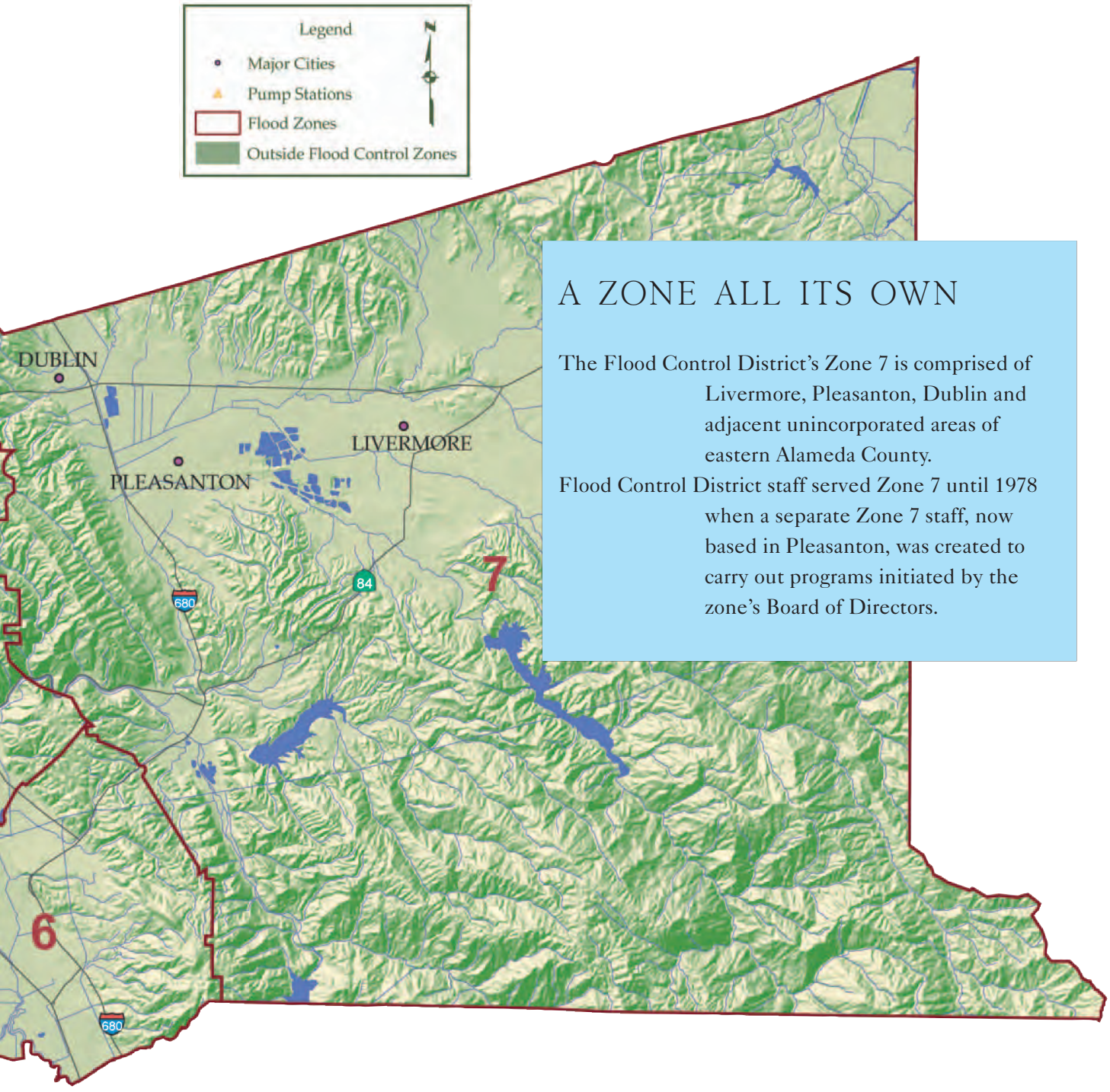
The County's GIS is currently on the District's intranet. The District is reviewing plans to move the GIS to the Internet, so that other authorized users can have access to the data.




**Which Flood Zone do you live in?**

| Community | Zone | Page |
|---|---|---|
| Alvarado | 3A | 16 |
| Baumberg | 3A | 16 |
| Castro Valley | 2 | 11 |
| Centerville | 5 | 22 |
| Cherryland | 2 | 11 |
| Decoto | 5 | 22 |
| Emeryville | 12 | 31 |
| Fairview | 2 | 11 |
| Fremont (north) | 5 | 22 |
| Fremont (south) | 6 | 26 |
| Hayward (north) | 2 | 11 |
| Hayward (central) | 4 | 18 |
| Hayward (south) | 3A | 16 |
| Highland | 3A | 16 |
| Hillview | 3A | 16 |
| Irvington | 6 | 26 |
| Mission San Jose | 6 | 26 |
| Mohrland | 4 | 18 |
| Mt. Eden | 3A | 16 |
| Newark | 5 | 22 |
| Oakland | 12 | 31 |
| Russell City | 4 | 18 |
| San Leandro (north) | 13 | 34 |
| San Leandro (east) | 2A | 14 |
| San Leandro (central) | 2 | 11 |
| San Leandro (south) | 9 | 29 |
| San Lorenzo | 2 | 11 |
| Union City (north) | 3A | 16 |
| Union City (south) | 5 | 22 |
| Valle Vista | 3A | 16 |
| Warm Springs | 6 | 26 |

# ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT




## A ZONE ALL ITS OWN

The Flood Control District's Zone 7 is comprised of Livermore, Pleasanton, Dublin and adjacent unincorporated areas of eastern Alameda County.

Flood Control District staff served Zone 7 until 1978 when a separate Zone 7 staff, now based in Pleasanton, was created to carry out programs initiated by the zone's Board of Directors.

# ZONE 5


Zone 5 is one of the Flood Control District's largest zones. Its watersheds stretch from the Fremont and Hayward hills to the shoreline of San Francisco Bay. Over 36 miles of natural waterways are found in this zone including Crandall, Dry, and Plummer Creeks, and Newark and Mowry Sloughs.

In the rainy season, stormwater travels through the creeks plus almost 50 miles of closed conduit and over 6 miles of concrete channel. The Alameda Creek Federal Project—almost 10 miles of flood control channel—is found in Zone 5. This project, completed in 1975, eliminated area flooding and allowed homes to be built on what is now prime real estate. Nearly all of Alameda Creek's 695-square-mile watershed lies outside the zone to the east.

Major maintenance activities in this zone include erosion repair to Alameda Creek's earthen channels, fence repair, and removal of debris, vegetation, and dead and dying trees. Each of these tasks helps reduce flow obstructions in flood control channels.

Repairs and upgrades to the zone's three pump stations—J2, J3, and Quail Run—contribute to smooth flow of stormwater from area waterways and ultimately into San Francisco Bay.

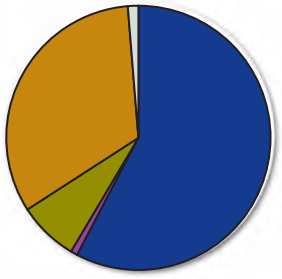
## ONGOING ENVIRONMENTAL EDUCATION

The Flood Control District, in collaboration with the City of Fremont and the USDA Natural Resources Conservation Service, converted a 14-acre District-owned parcel in a busy residential neighborhood into scenic wetlands and ponds. The Tule Pond Project in Fremont provides flood protection and pollution control for stormwater flowing into the Bay. The project also provides migratory bird habitat and an area for wildlife and wetland study.

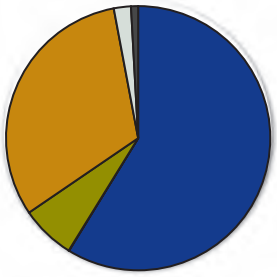
Completion of the Tule Pond Education Center in summer 2003 marked the final phase of the project. The new education center features many windows looking out on the ponds, spaces for lab experiments, and full Americans With Disabilities Act (ADA) access. By using modular construction enhanced with stucco, construction costs were held to $350,000.

The center's goal is to increase environmental awareness through programs for elementary and junior high students. Math/Science Nucleus, a non-profit organization, will use the facility for educational tours, teacher workshops, and research. Student activities will include collecting data on wetland biota, completing lesson plans about the water cycle and Bay Area watersheds, and taking field trips to see wetland vegetation and learn how the ponds provide stormwater treatment.

*The Tule Pond Education Center is located at 1999 Walnut Avenue in Fremont. For more information about education programs offered at the center, visit www.msnucleus.org.*



*2002 REVENUE*
*$6,029,510*



*2003 REVENUE*
*$6,410,314*

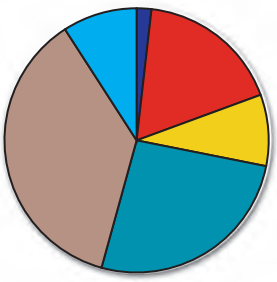
## A Better Line B

In the city of Newark, projects are underway to expand the amount of stormwater that Line B, which discharges into Mowry Slough, can convey. This work will not only improve flood control, but will allow District engineers to propose modifications to the FEMA flood boundaries, thereby removing homes from FEMA delineated flood plains. (See page 20 for a key to flood mapping and flood zones.)

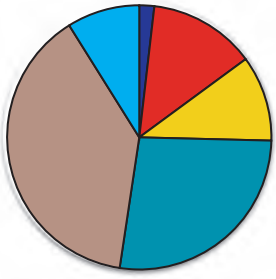
*Zone 5, Line B*

District engineers have designed improvements to expand the capacity of Line B where it crosses Mowry Avenue in western Newark. Construction on this project, with an estimated $400,000 budget, will begin in summer 2004.

Work to increase the capacity of Line B between I-880 and Farwell Drive in western Fremont has been put on hold while District engineers study existing flood control structures installed downstream. Following this study, engineers will determine the type and number of new structures, such as box culverts, to be installed.



*2002 EXPENDITURES $4,423,968*



*2003 EXPENDITURES $4,167,166*


## Studying Alameda Creek

On the heels of the District's major dredging project in Alameda Creek from 1998 to 2001, a study is now looking at the types of vegetation that return to the channel following dredging and how quickly plants return to dredged areas. Results will be compiled after an additional year of evaluation. The Flood Control District is also assisting the US Army Corps of Engineers as it evaluates means to eliminate manmade barriers currently impeding migration of steelhead trout to upstream spawning locations. (See "Steelhead," page 24.)

# ZONE 5

The Flood Control District has hired a scientist to identify sources of sediment from Alameda Creek's 695-square-mile watershed so that methods of sediment reduction in the creek can be studied. Less sediment in the channel means less dredging in the future. This project is in its early stages.

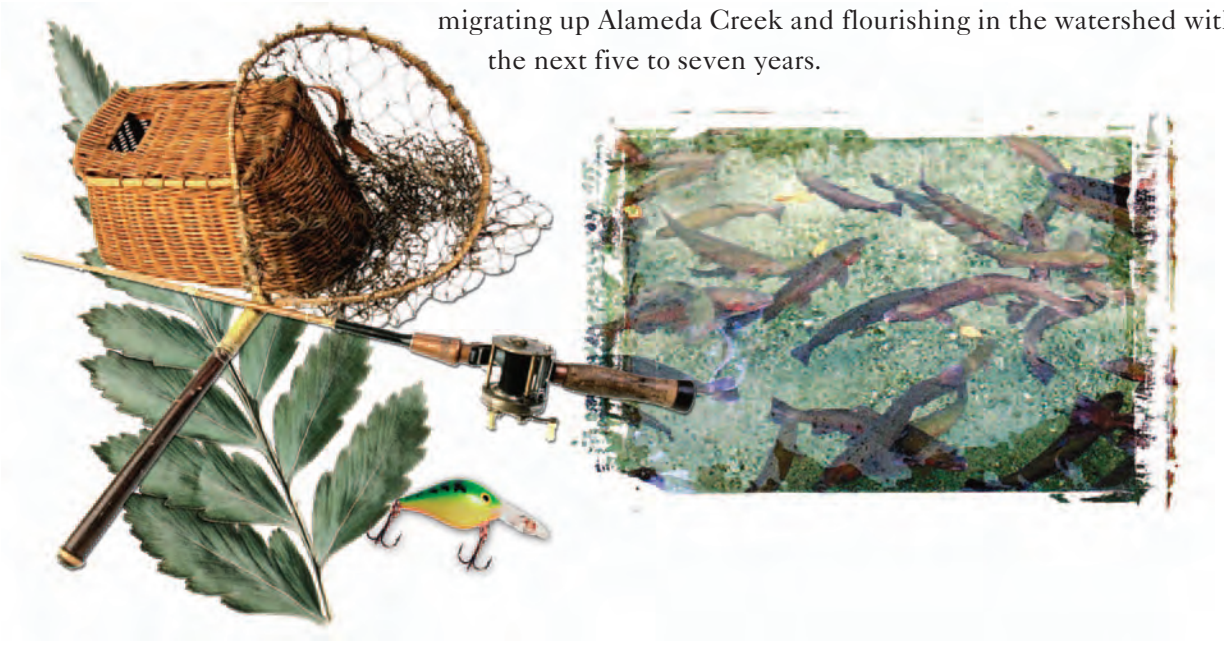
Finally, the District is evaluating options to handle stormwater near salt ponds found in the zone. To maintain stormwater capacity, a four-mile segment of Alameda Creek running through the salt ponds would have to be dredged. Another option under evaluation would eliminate the need to dredge and would protect endangered species in the channel: stormwater would be allowed to overflow into salt ponds north of Alameda Creek. The District is working with the state and federal governments, which now own the salt ponds, on restoration plans for the ponds.

## *STEELHEAD—COMING SOON TO ALAMEDA CREEK!*

Since 1999 the District has lead the efforts of the Alameda Creek Fisheries Restoration Workgroup, a consortium of a number of agencies and organizations, to restore steelhead to Alameda Creek.

Studies have determined that suitable habitat exists within the Alameda Creek watershed to support spawning and rearing of steelhead. The workgroup identified several essential actions to remove barriers to upstream migration, including the construction of fish ladders over several barriers, screening several diversion structures, removing two dams in Niles Canyon, and modifying a gas pipeline crossing. The East Bay Regional Park District has already removed two concrete swim-dams in the Sunol Wilderness.

All projects together comprise a budget of more than $10 million dollars. Work is now being done to secure funding for these projects. It is hoped that steelhead will be seen migrating up Alameda Creek and flourishing in the watershed within the next five to seven years.



# WHAT IS A FLOOD PLAIN?

A flood plain is an area near a river or creek that floods periodically. It is a naturally occurring feature. As development occurs in the area that drains to a river or creek, the ground surface is covered with roofs and pavement. Less rainfall percolates into the ground and there is increased runoff to the river or creek. The area prone to flooding becomes larger and the water becomes deeper. Development in the flood plain is then subject to flooding.

## WHAT DOES FEMA HAVE TO DO WITH FLOOD PLAINS?

FEMA (the Federal Emergency Management Agency) carries out emergency management programs that help communities nationwide to prepare for disasters, including floods, and deal with their aftermath.

In order to determine the risk of flooding and thereby reduce flood damage, FEMA prepares Flood Insurance Studies and maps flood plains according to the likelihood that flooding could occur. The risk is based upon factors like rainfall, existing and planned development, and in-place flood control facilities (channels, levees, etc.).

Areas that have a 1% (1 in 100) chance or more of flooding in any one year based upon the Flood Insurance Studies are in a 100-year flood plain. Put another way, this is an area that would be expected to flood at least once in a 100-year period. These are mapped as Special Flood Hazard Areas. The maps are known as Flood Insurance Rate Maps (FIRMs). Although this risk may seem remote, the likelihood of flooding is greater over the life of a 30-year mortgage, and lenders will require flood insurance on homes located in a Special Flood Hazard Area.

## WHAT IS THE NATIONAL FLOOD INSURANCE PROGRAM?

The National Flood Insurance Program is administered by FEMA. The program provides flood insurance and flood disaster assistance for communities that comply with requirements aimed at reducing flood risk. The Alameda County Flood Control and Water Conservation District, in cooperation with Alameda County and its various cities, provides that compliance.


# ZONE 6

Zone 6, in southern Alameda County, is home to a number of natural creeks flowing from the foothills of Mission Peak, Mt. Allison, and Monument Peak above Fremont down toward the city. These creeks include Laguna Creek, Mission Creek, Canada Del Aliso Creek, Agua Caliente Creek, Agua Fria Creek, Toroges Creek, and Scott Creek. Within the City of Fremont, stormwater reaches the Bay by flowing through a series of pipelines, earthen and concrete channels to either Coyote Creek, which forms the border between Alameda and Santa Clara Counties, or Mowry Slough.

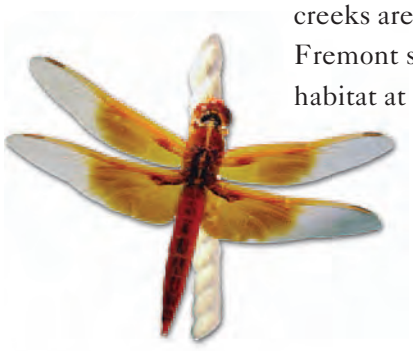
The flatter portion of Zone 6 is an alluvial plain, that is, it is made up of sediment deposited by water flowing to the San Francisco Bay. Silt can clog flood control channels and restrict rainwater flow, so District Maintenance and Operations crews remove a great deal of silt each year from this zone's waterways. Maintenance activities, like debris and vegetation removal and weed control, also help remove obstructions to storm-water flow in the District's channels.

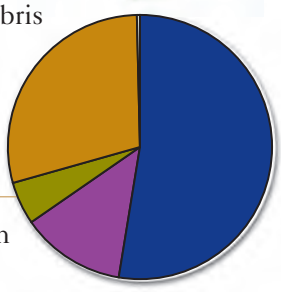
*Removing sediment from culverts*

## BACK TO NATURE AT MISSION CREEK

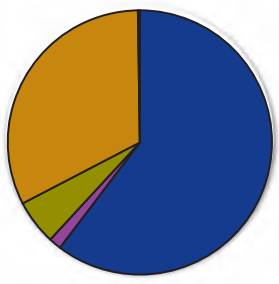
Line L, or Mission Creek, just upstream of Lake Elizabeth, has suffered severe damage from stormwater flow over the years. District engineers and consultants have designed a creek enhancement project for a portion of the creek from Driscoll Road to Palm Avenue. The project will widen the creek and return the area to a more natural appearance. The design incorporates a flattened creek bank to minimize further erosion plus bioengineering techniques. These techniques use natural materials to stabilize soils. (See "Bioengineering," page 15).

Non-native plants will be replaced with native species. Jays, hawks, dragonflies, frogs, and other animals that once made their home near Alameda County's natural creeks are expected to return as restoration progresses. Upon completion, Fremont school students will hear lectures in the field and observe creek habitat at an outdoor study area.





*2002 REVENUE*
*$5,525,284*



*2003 REVENUE*
*$5,007,702*

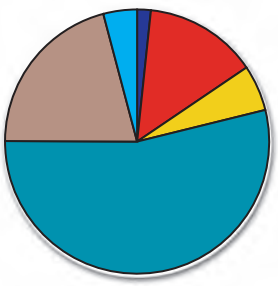
To move forward with the project, District engineers had to obtain a number of environmental permits from agencies such as the US Army Corps of Engineers and the California Department of Fish and Game. District staff conducted two public meetings to present the design and inform the public of minimal impacts during construction. A $1.1 million contract for the project was awarded in June 2003, and construction was completed in December 2003.

The Line L Restoration project is a collaborative effort among many city and state agencies and other organizations. The project is funded in part by a grant from the State Department of Water Resources Urban Streams Restoration Program. The non-profit group Math/Science Nucleus, which provides environmental education, was a co-sponsor on the District's grant application.

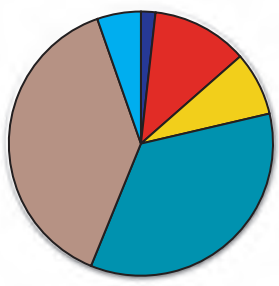
The City of Fremont is paying for tree planting and Union Sanitary District pledged funds to relocate a sanitary sewer line within the existing creek bank. The Alameda County Water District is covering the cost of new water meter installation for a temporary irrigation system. The Fremont Unified School District provided a needed easement. Other sponsors include Tri-City Ecology and the Mission San Jose High Green Club.

## ENHANCEMENTS AT THE LAGUNA CREEK BYPASS

Construction was completed in summer 2001 on repairs to Line G from Miramar Park Drive to Valpey Park Avenue. Line G, also known as the Laguna Creek bypass flood control channel, is an earthen channel passing through the Irvington neighborhood of Fremont. In this $592,000 construction project, erosion damage was repaired. The channel banks were redesigned to have more gentle side slopes and a more natural low-flow channel. These modifications will minimize future erosion and allow for more effective sediment transport.



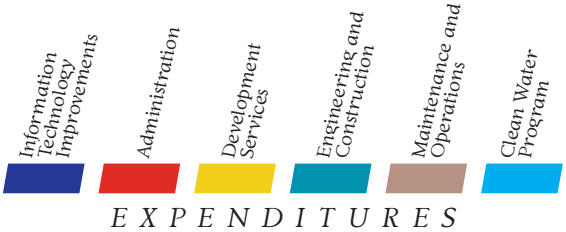
*2002 EXPENDITURES*
*$4,105,266*



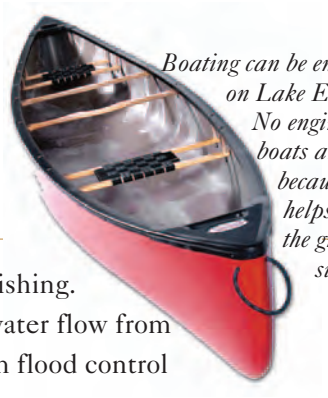
*2003 EXPENDITURES*
*$3,567,363*

## FREMONT FLOOD WALLS

District engineers studied potential designs for increasing the capacity of Lines E (Laguna Creek), F, and K (both of which flow into Line E) in Fremont. They began with 60 alternatives, narrowed the list to 28, and further cut the list to four promising options. The District, with support from the City of Fremont, requested Congressional approval for the Army Corp of Engineers to investigate whether an improvement project on Line E warrants Federal participation. The District has provided its study to the Corps for use in their Phase I Reconnaissance Study. If the Corps determines that Federal participation is warranted, the District will enter into an agreement with the Corps to continue the Phase II Feasability Study and the Corps will design and construct the project. This would result in a tremendous cost savings to the District. The Corps is expected to complete its Phase I Reconnaissance Study in the Spring of 2004.



# ZONE 6



*Boating can be enjoyed on Lake Elizabeth. No engine-powered boats are allowed because the lake helps recharge the groundwater supply.*

## CLEAR WATERS AT LAKE ELIZABETH

Lake Elizabeth is not just a recreational reservoir with boating and fishing. It also provides flood protection by retaining stormwater flow from upstream hills, then releasing water into downstream flood control channels at a measured rate.

Silt levels in Lake Elizabeth had accumulated for over three decades. Water quality had deteriorated, impacting both the habitat and recreational uses. District engineers studied means of removing excess silt from the lake and obtained required permits from environmental agencies to do the work. The District and the City of Fremont, which maintains the facility, agreed to split all costs for survey, design, environmental review, permits, construction, and administration.

Work was completed in 2002, at a cost of $849,000, in time for summer activities. People sailing, fishing, or simply walking around the lake have commented on the cleaner, clearer water.

*Lake Elizabeth near Duck Island*

# ZONE 9

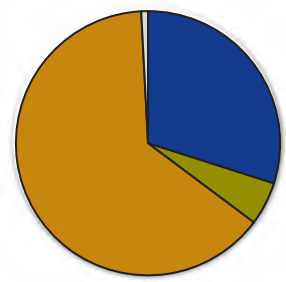

Zone 9 in San Leandro, adjacent to and west of Zone 2A, is a different type of watershed from most other Flood Control District zones. It has no natural creeks and less than a mile of earthen channel. Concrete-lined channels and underground pipes move almost all the zone's stormwater to the San Francisco Bay.

District crews keep waterways clear and maintained by removing excess vegetation and debris and maintaining fences around flood control structures. Therefore, stormwater flows freely into channels and pipelines to minimize flood potential for city streets, businesses, and residences.

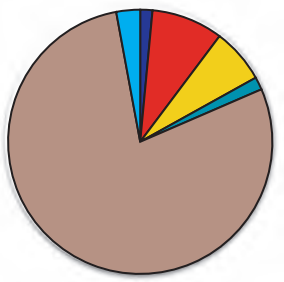
## PUMPING STORMWATER

Four pump stations in the zone—F, H, D1, and Belvedere—pump collected stormwater into the Bay. Maintenance and Operations personnel keep the zone's pump stations running smoothly through regular preventive maintenance and repairs.

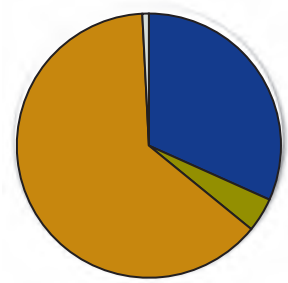
In 2003, the District replaced an eight-inch pump at Belvedere Pump Station. At Pump Station D-1, crews are preparing to replace a backup diesel engine and components. This work is budgeted at $72,000.



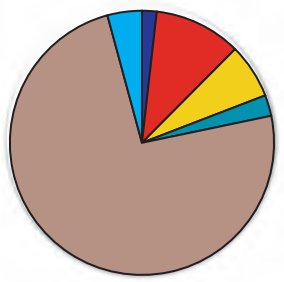
*2002 REVENUE*
*$373,867*



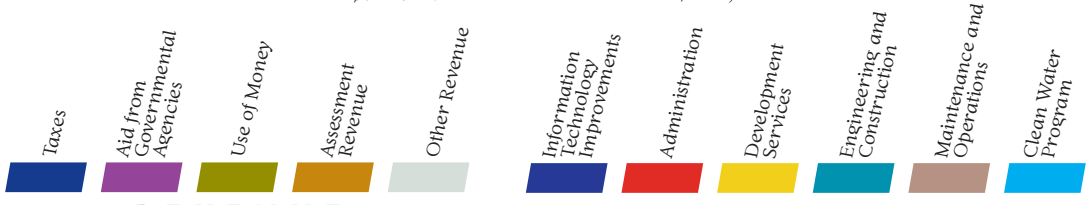
*2002 EXPENDITURES*
*$397,634*



*2003 REVENUE*
*$379.710*



*2003 EXPENDITURES*
*$415,412*



# ZONE 9

Pump Station F, constructed in 1965, is one of the oldest stations in the system. Planned upgrade work includes an overhaul of one of the facility's 200-horse-power motors, expected to cost almost $15,000. District crews will next turn their attention to one of the large pumps at Pump Station F to determine if it should be replaced or overhauled.

In Zone 9 and throughout the District, work is in progress to phase in new pump station monitoring technology. With SCADA (Supervisory Control and Data Acquisition) technology, District staff can call up a graphic display of any pump station using only a lap top computer and a telephone connection. The display indicates which pumps are running, how much water has been pumped over a period of time, and other operating data. SCADA saves time and money by spotting system problems before they escalate and reducing overtime necessary to correct simple problems.


*This microwave tower newly installed at the Alameda County Public Works Agency Corporation Yard will enable wireless monitoring and control of pumping stations throughout the District.*

# ZONE 12

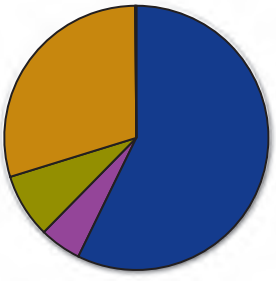
Zone 12, the largest zone in western Alameda County, covers Oakland and Emeryville.


Picturesque creeks such as Temescal, Glen Echo, Pleasant Valley, Trestle Glen, Sausal, Peralta, Courtland, Lion, Arroyo Viejo, Elmhurst, Stonehurst, and San Leandro Creeks meander through urban areas in this zone.

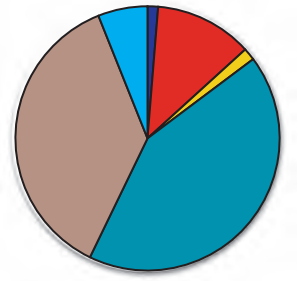
*Ribbon-cutting at Arroyo Viejo*

The Clean Water Division staff work with the City of Oakland to promote stewardship of local creeks and watershed management in Zone 12 while encouraging pollution prevention practices.

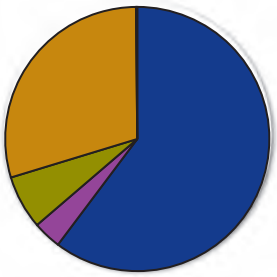
In addition to the natural waterways, almost 50 miles of closed conduit and just over 10 miles of earthen and concrete channel direct stormwater toward the Bay. District Maintenance and Operations crews repair fences, trim trees, and remove debris and excess vegetation around the zone's stormwater channels. This work keeps waterways clear for maximum flood protection. Four pump stations in this zone—Ettie, McKillop, Lake Merritt, and Temescal—lift storm-water flows for discharge into the San Francisco Bay.



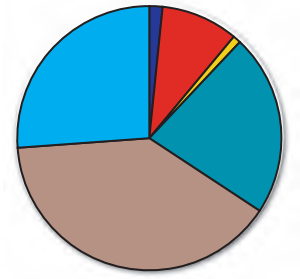
*2002 REVENUE*
*$6,846,670*



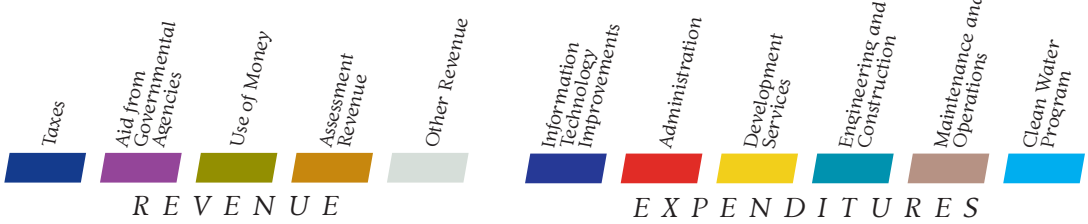
*2002 EXPENDITURES*
*$6,772,260*



*2003 REVENUE*
*$6,828,355*



*2003 EXPENDITURES*
*$6,101,376*



# ZONE 12

## LAKE MERRITT PUMP STATION NEWS

Work to modify trash racks at Lake Merritt Pump Station is now complete. The new trash racks replace smaller racks that clogged frequently and impeded flow to the pumps.

The District and City of Oakland are studying the feasibility of relocating the Lake Merritt Pump Station in order to create an open channel from Lake Merritt for boating. The study is nearing completion, but any changes at Lake Merritt are years in the future.

## IMPROVEMENTS ALONG LAKESHORE AVENUE

Design is complete on a project to address flooding potential along Lakeshore Avenue upstream (east) of Lake Merritt. Construction work, expected to begin in early 2004, will increase the capacity of existing storm drain lines D (Trestle Glen Creek) and D-1.

A 10-foot by 7-foot concrete box culvert will be added along Lakeshore Avenue from Lake Merritt to Trestle Glen Road. At Trestle Glen Road, large, underground concrete box culverts will be installed to replace existing smaller culverts. Along Lakeshore Avenue from Mandana Boulevard to Prince Street, an existing storm drain box culvert will be replaced with a larger 60-inch reinforced concrete pipe.

District engineers conducted public meetings to inform residents and business leaders about the project. To minimize any impacts, a construction phase traffic plan has been created and, in busy retail areas, work will be performed at night. Construction will take approximately 10 months.

The project has been fully coordinated with the City of Oakland. Environmental permits from the California Department of Fish and Game and the USACE have been obtained along with a City of Oakland Utility Excavation Permit and permits from Caltrans. Construction cost is estimated at $7.2 million.

## A PARK AT PERALTA CREEK

The District and City of Oakland formed a partnership to enhance Line F (Peralta Creek) near Cesar Chavez Park to create an ideal location for family activities. The District's portion of improvements to the creek between 38th Avenue and Bridge Avenue were completed in summer 2003.

A deteriorating timber pedestrian bridge and concrete retaining wall will be removed to make the creek look more natural. Non-native plants will be removed. Local residents learned about the project design through public meetings and were able to provide suggestions.

The $214,000 fast-tracked flood control project went through design and construction in less than a year. The District is studying other areas along Peralta Creek that could benefit from similar improvements in the future.

## CONTINUING WORK AT GLEN ECHO CREEK

Phase Two of a project to improve Line B (Glen Echo Creek) from 29th Street to Frisbie Street is underway. Construction to increase channel capacity while restoring the greenbelt is anticipated to begin in mid-2005. Estimated construction cost is $1 million. Phase One of improvement work in this portion of Glen Echo Creek, from 28th to 29th Streets, was completed in 2002.

In addition, construction of a project to repair creek bank erosion along Glen Echo Creek at Monte Vista Avenue was completed in October 2003. District staff held several community meetings and worked closely with PANIL (Piedmont Area Neighborhood Improvement League) to fine-tune the details of the design.

District engineers used bioengineering techniques in the design to enhance the creek habitat. Bioengineering is the use of biodegradable materials, rather than concrete or steel, to stabilize soils. (See "Bioengineering," page 15.) For example, vegetated soil wraps (layers of semi-compacted soil wrapped in biodegradable material) were placed on the creek bank slopes along Glen Echo Creek.

Non-native trees, mostly acacia, were replaced with oak trees and native shrubs. Willow and dogwood cuttings were planted. An existing asphalt walkway was replaced with decomposed granite for an improved park-like setting.

*Glen Echo Creek*

# ZONE 13


Zone 13 was established to take in the portions of San Leandro that had not been included in Zones 2, 2A, or 9.

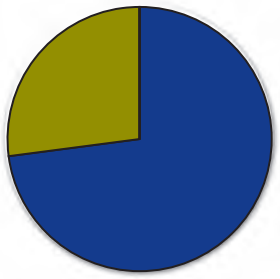
For the most part, the capacity and configuration of San Leandro Creek keep floodwaters contained. Water velocities down the creek are not high, so repair work is rarely needed. The primary District maintenance activities for this zone are vegetation and debris removal. Keeping the natural creek and other waterways in the zone clear helps prevent flooding during rainy weather.

## EMBANKMENT RESTORATION

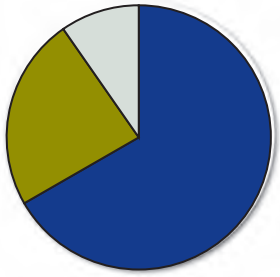
For one portion of San Leandro Creek behind homes on Glen Drive, shifts in the creek slope caused minor ground movement. The District completed a fast track project to restore the embankment to its original state. Design started in early 2003, and construction was completed in fall 2003.

Work included removing a retaining wall, regrading the creekbank, and reinforcing the creek toe, that is, the bottom of the bank. Erosion control mats made from natural fibers were placed on areas disturbed during construction so that the soil remains stable. In the final stage, the repaired area was planted with native trees and shrubs.

*San Leandro Creek embankment.*



*2002 REVENUE*
*$628,345*



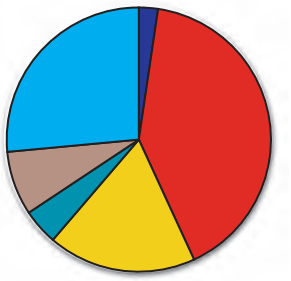
*2003 REVENUE*
*$691,370*

## CARING FOR THE WATERSHED

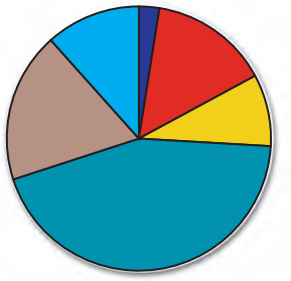
The Flood Control District, City of San Leandro, and environmentally active San Leandro citizens worked together to develop a draft Watershed Management Plan over the past several years. The purpose of the plan was to develop ways to manage San Leandro Creek by addressing public access, maintenance, and means of repairing creekbank slides and erosion.

*Opening Ceremony, May 2003*
*Palomares Creek Embankment Project*

Although the plan was not finalized, the District will implement many of its recommendations in future repair and maintenance work. The District appreciated, and learned from, the time spent meeting with local interest groups and attending public forums addressing watershed needs.



*2002 EXPENDITURES*
*$208,961*



*2003 EXPENDITURES*
*$208,593*


# CLEAN WATER DIVISION

The Clean Water Division works on programs and projects to enhance and protect our local creeks and watersheds. These projects involve monitoring, watershed assessment, creek restoration, and pollution prevention.

## ALAMEDA COUNTYWIDE CLEAN WATER PROGRAM

The Alameda Countywide Clean Water Program, established in 1991, is a consortium that includes the Clean Water Programs for the cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, Union City, plus the Alameda County Flood Control District, Zone 7, and county unincorporated areas.

These 17 agencies are co-permittees on a federal NPDES (National Pollutant Discharge Elimination System) permit regulated by the State of California Water Quality Control Board – San Francisco Bay Region. This permit mandates pollution control standards for stormwater runoff to the San Francisco Bay consistent with goals of the Federal Clean Water Act, which are to make our waters fishable and swimmable.

All co-permittees are responsible for implementing requirements of the NPDES permit at the local level. However, the co-permittees also work together on common tasks. The Clean Water Division staff is responsible for administering and implementing these comon tasks, particularly those involving monitoring and assessment and public outreach on a broader level. In early 2003, the Regional Water Quality Control Board approved a new 5 year permit. A primary focus of the new permit is on stricter controls for new development and construction.

## UNINCORPORATED AREA CLEAN WATER PROGRAM

The Clean Water Division represents unincorporated Alameda County as a co-permittee of the NPDES permit. Activities include commercial and industrial inspection, watershed assessment and monitoring, new development and construction site controls, illicit discharge control, and public outreach. County staff work with people throughout unincorporated Alameda County to implement pollution prevention practices.


## Alameda County Flood Control and Water Conservation District Clean Water Program

Clean Water Division staff represent the District as a co-permittee of the NPDES permit. District activities include watershed assessment and monitoring, public outreach, and illicit discharge control throughout the District. District staff coordinate with cities and agencies to implement resource conservation efforts.

## Work Within Flood Control

Within the District, Clean Water Division staff inspects flood control facilities for illicit discharges and looks for ways to eliminate stormwater pollution that could be generated in construction and maintenance practices. The group also helps set requirements for new developments.

The Division participates in zone-specific activities, like recent work to determine the viability of reestablishing fish runs in San Lorenzo and Alameda Creeks. Division staff worked with District engineers in the development of the Fremont Tule Pond Project and Education Center. In Zone 12, the Division, in partnership with East Bay Conservation Corps and City of Oakland, promotes stewardship of urban creeks and educates residents that even concrete lined channels need to stay clean because they lead to the Bay.

## At Work in Unincorporated Areas

The Clean Water Division promotes a sense of stewardship for the natural environment in unincorporated areas. It has helped develop, and continues to support, watershed awareness groups such as Friends of Sunol Creek. Division staff present workshops outlining steps to create new watershed awareness groups. The Division hopes to inspire community groups to take the lead in raising pollution control awareness.

Information about stormwater pollution control is shared at community events from the Alameda County Fair to small, local festivals in unincorporated areas and at area schools. Point-of-purchase campaigns have been implemented, such as placing information flyers on non-toxic pest control in garden supply centers. The Division also sponsors workshops on less toxic gardening practices.

# ONE-YEAR LOOK-AHEAD

The Alameda County Flood Control District has many ongoing projects under various stages of planning, design, and construction with the goal of improving the county's flood control infrastructure.

The following is a list of projects planned for implementation in Fiscal Year 2003/2004.

| Project | Estimated Construction Cost |
|---|---|
| **Zone 2** | |
| Line B (San Lorenzo Creek) creek/trail restoration and outfall repair, Hazel Ave. to 2nd St. | $350,000 |
| **Zone 4** | |
| Line A crossing improvement at Winton Ave. | $590,000 |
| **Zone 5** | |
| Line B capacity enhancement, Mowry Blvd. to UPRR | $760,000 |
| **Zone 6** | |
| Line E (Laguna Creek) levee/embankment repair, I-880 to N of Grimmer Blvd. | $925,000 |
| Line I levee flood wall construction | $585,000 |
| Line L (Mission Creek) channel and bank repair and erosion protection, Driscoll Rd. to Palm Ave. | $1,100,000 |
| **Zone 12** | |
| Lines D (Trestle Glen Creek) and D-1 capacity enhancement along Lakeshore Ave. between Lake Merritt and Prince St. | $7,200,00 |
| Line B (Glen Echo Creek) restoration between Monte Vista Ave. and Montell Wilda St. | $385,000 |
| Line F (Peralta Creek) bypass relocation | $214,000 |
| **Zone 13** | |
| Line P (San Leandro Creek) bank repair at Glen Drive | $100,000 |

# CONTACT INFORMATION

BOARD OF SUPERVISORS

| | |
|---|---|
| Scott Haggerty, District 1 | (510) 272-6691 |
| Gail Steele, District 2 | (510) 272-6692 |
| Alice Lai-Bitker, District 3 | (510) 272-6693 |
| Nate Miley, District 4 | (510) 272-6694 |
| Keith Carson, District 5 | (510) 272-6695 |

Hot Line for questions relating to the assessment process (Special Districts Administration) (510) 670-5518

COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
Agencia de Trabajos Publicos
del Condado de Alameda

399 Elmhurst Street
Hayward, CA 94544

(510) 670-5480
(510) 670-5541 fax

FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Distrito del Control de Inundiacion
y Conservacion de Agua

DIRECTOR
Donald J. LaBelle

| | |
|---|---|
| Office of the Director | (510) 670-5455 |
| Oficina del Director | (510) 670-5455 |
| In case of emergency, | dial 9-1-1 |
| En caso de emergencia, | marque 9-1-1 |
| To report flooding of major creeks in Alameda County, call | (510) 670-5500 |
| Para reportar desbordamiento o inundacion de arroyos en el Condado de Alameda, llamar al | (510) 670-5500 |
| To report illegal dumping or trash in creeks, call | (510) 670-5500 |
| Para reportar arrojo ilegal de basura en los arroyos, llamar al | (510) 670-5500 |
| For sandbags, in Hayward call | (510) 670-5500 |
| and in Dublin call | (925) 803-7007 |
| Para bolsas de arena, | |
| en Hayward llamar al | (510) 670-5500 |
| en Dublin llamar al | (925) 803-7007 |
| Adopt-a-Creek, Adopt-a-Spot Program | (510) 670-5501 |
| Para tomar un programa sobre arroyos | (510) 670-5501 |
| Maintenance and Operations | (510) 670-5500 |
| Mantenimiento y Operaciones | (510) 670-5500 |
| Land Development and Permits | (510) 670-6601 |
| Desarrollo de tierra y permisos | (510) 670-6601 |
| Engineering and Construction | (510) 670-5480 |
| Ingenieria y construccion | (510) 670-5480 |
| Clean Water Division | (510) 670-5543 |
| Programa sobre agua limpia | (510) 670-5543 |

For general information, e-mail us at info@acpwa.mail.co.alameda.ca.us

Or visit us at www.acgov.org/pwa

Para informacion general escribanos a la direccion de correo electronica: info@acpwa.mail.co.alameda.ca.us

O visitenos al: www.acgov.org/pwa

Para asistencia en espanol, por favor llame a Maria Contreras al (510) 670-5590; o Linda Herrera al (510) 670-5497

For assistance in Chinese, please contact Judy Jung at (510) 670-5716